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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/897,102	07/03/2001	Yoshihiro Ishikawa	210681US2	9247

22850 7590 06/17/2005

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EXAMINER	
PEREZ, ANGELICA	

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/897,102	ISHIKAWA, YOSHIHIRO	
	Examiner	Art Unit	
	Perez M. Angelica	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan (Hogan, Billy; US Patent no.: 6,442,393 B1) in view of Wallstedt (Wallstedt et al.; US Patent No.: 5,854,981 A) and further in view of DeSantis (DeSantis et al.; US patent No.: 6,728,540 B1).

Regarding claims 1 and 8, Hogan teaches of an operation data creating method for creating operation data in a mobile communication system (column 3, lines 62-65) which includes a plurality of base stations within the service area (column 4, lines 35-40; where networks comprise a plurality of base stations) and a mobile station which makes a wireless communication with the base stations (column 4, lines 59-67), the operation data creating method comprising the steps of creating quality information indicating the communication quality level with respect to each base station at each local position within a cell of the service area (column 4, lines 7-10; where the quality information of each local mobile station is related to the available base stations in the area).

Hogan does not specifically teach of selecting a first base station having a highest communication quality level; selecting base stations having a second highest or subsequent communication quality level which is lower than the first base station at

each local position where the first base station has the highest communication quality level in the subset of local positions, based on the created quality information and creating the operation data indicating the selected base stations as the-other base stations related to the first base station having the highest communication quality level. Hogan further teaches of quality level at each local position in a subset of local positions within each cell of the service area (figure 4 where positions 15, 16 and 18 correspond to a subset of local positions in the system), based on the created quality information, the subset of local positions including a local position of the mobile station (column 4, lines 7-10; where the mobile station positions are considered).

In related art, concerning an adaptive neighbor cell list, Wallstedt teaches of selecting a first base station having highest communication quality level (column 4, lines 43-47 and figure 5, where the least interfered signal corresponds to the highest quality level).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Hogan's data creating method with Wallstedt's selecting a first base station having highest communication quality level for creating data based on a best quality level in order to create a list of highest quality measurements that will improve the likelihood of successful handoffs, as taught by Wallstedt.

Hogan in view of Wallstedt does not specifically teach of selecting base stations having a second highest or subsequent communication quality level which is lower than a highest communication quality level at each local position where the same base

station of interest has the highest communication quality level, based on the created quality information with respect to each base station at each local position; and creating the operation data indicating the selected base stations as the other base stations related to the base station of interest having the highest communication quality level.

In related art concerning assisted handover in a wireless communication system, DeSantis teaches of selecting base stations having a second highest or subsequent communication quality level which is lower than a highest communication quality level at each local position where the same base station of interest has the highest communication quality level (column 5, lines 40-43; where the present base station holds the highest quality level and is anticipating handover), based on the created quality information with respect to each base station at each local position (column 5, lines 51-54; where the participating stations are the neighboring stations); and creating the operation data indicating the selected base stations as the other base stations related to the base station of interest having the highest communication quality level (column 5, lines 50-59; the "rank-ordered based" list holds the information in order in case of handover request); where the "rank-ordered" list based on RSS corresponds to a ordered list that contains a first, second, third, etc. RSS. Moreover, RSS is a parameter that defines quality of service. Also, it is inherent in the art regarding quality of service to consider the highest quality first and move in a descending order if options are required).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Hogan and Wallstedt method for creating data based

on a best quality level with DeSantis's ordered list in order to select the base station with the next best signal strength to preserve a high quality of service, as taught by DeSantis.

Regarding claims 2 and 9, Hogan in view of Wallstedt and further in view of DeSantis teaches all the limitations of claim 1. Wallstedt further teaches where the communication quality level with respect to each base station at each local position within the service area is computed by estimation according to a predetermined algorithm (column 5, lines 8-13; where the matrix is an algorithm), and the quality information is created based on a computed result (column 5, lines 13-16).

Regarding claims 3 and 10, Hogan in view of Wallstedt and further in view of DeSantis teaches all the limitations of claim 1. Wallstedt further teaches where: the communication quality level with respect to each base station at each local position within the service area is measured (column 5, lines 8-13), and the quality information is created based on a measured result (column 5, lines 13-16).

Regarding claims 4 and 11, Hogan in view of Wallstedt and further in view of DeSantis teaches all the limitations of claim 1. Wallstedt further teaches where: one of the base stations having the second or subsequent communication quality level is selected if a same base station having the second or subsequent communication quality level at a plurality of local positions, when selecting the base stations having the second or subsequent communication quality level at each local position where the first base station has the highest communication quality level (page 4, paragraphs 0039 and 0040).

Regarding claims 5 and 12, Hogan in view of Wallstedt and further in view of DeSantis teaches all the limitations of claim 1. Wallstedt also teaches of creating a list having a base stations arranged at positions in an order from a highest communication quality level based on the created quality information, with respect to each local position (column 9, lines 39-44); Wallstedt further teaches of selecting base stations located at a second or subsequent position in each list having the first base station positioned at a first position having the highest order in each list (page 4, paragraph 0039); and creating operation data indicating the selected base stations as the other base stations related to the first base station located at the first position having the highest order in each list (page 4, paragraph 0040; where when referring to quality, the highest quality is preferred in a service area).

Regarding claim 6 and 13, Hogan in view of Wallstedt and further in view of DeSantis teaches all the limitations of claim 5. DeSantis also teaches, where: the base stations are successively selected from the positions having the higher order in each list, when selecting the base stations located at the second or subsequent position in each list having the first base station positioned at the first position having the highest order in each list (column 5, lines 51-59), and the operation data created indicate the selected base stations as the other base stations related to the first base station at the first position having the highest order in each list, in a state where the selected base stations are arranged in the selected order (column 5, lines 51-59; where the "rank-ordered" list based on RSS corresponds to a ordered list that contains a first, second, third, etc. RSS. Moreover, RSS is a parameter that defines quality. Also, it is inherent in

the art regarding quality to consider the highest quality first and move in a descending order if options are required).

Regarding claims 7 and 14, Hogan in view of Wallstedt and further in view of DeSantis teach all the limitations of claim 6. In addition, DeSantis teaches, where score information corresponding to a number of a same base station located at a same position in each list is generated, when successively selecting the base stations located at the second or subsequent positions in each list having the first base station located at the first position having the highest order in each list, from the base stations located at positions having the higher order in each list (column 5, lines 51-59), and Wallstedt teaches where the operation data created indicates the selected base stations as the other base stations related to the first station at the first position having the highest order in each list, in a state where the score information is made to correspond to the same base station located at the same position in each list (column 5, lines 51-59.Where it is inherent in the art regarding quality to consider the highest quality first and move in a descending order if options are required).

Regarding claim 22, Hogan teaches of an operation data creating method for creating operation data in a mobile communication system (column 3, lines 62-65) which includes a plurality of base stations within a service area (column 4, lines 35-40; where networks comprise a plurality of base stations) and a mobile station which makes a wireless communication with the base stations (column 4, lines 59-67), the apparatus comprising a quality information creating part configured to create quality informtion indicating the communication quality level with respect to each base station at each

local position within a cell of the service area (column 4, lines 7-10; where the quality information of each local mobile station is related to the available base stations in the area).

Hogan does not specifically teach selecting a first base station having a highest communication quality level; selecting base stations having a second highest or subsequent communication quality level which is lower than the first base station at each local position where the first base station has the highest communication quality level in the subset of local positions, based on the created quality information and creating the operation data indicating the selected base stations as the-other base stations related to the first base station having the highest communication quality level. Hogan further teaches of quality level at each local position in a subset of local positions within each cell of the service area (figure 4 where positions 15, 16 and 18 correspond to a subset of local positions in the system), based on the created quality information, the subset of local positions including a local position of the mobile station (column 4, lines 7-10; where the mobile station positions are considered).

In related art, concerning an adaptive neighbor cell list, Wallstedt teaches of selecting a first base station having highest communication quality level (column 4, lines 43-47 and figure 5, where the least interfered signal corresponds to the highest quality level).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Hogan's data creating method with Wallstedt's selecting a first base station having highest communication quality level for creating

data based on a best quality level in order to create a list of highest quality measurements that will improve the likelihood of successful handoffs, as taught by Wallstedt.

Wallstedt does not specifically teach of a base station selecting part configured to select base stations having second highest or subsequent communication quality level which is lowest than the first base station at each local position where the first base station has the highest quality level in the subset of local positions, based on the created quality information; and a creating part configured to create the operation data indicating the selected base stations as the other base stations related to the first base station having the highest communication quality level.

In related art concerning assisted handover in a wireless communication system, DeSantis teaches of selecting base stations having a second highest or subsequent communication quality level which is lower than the first base station at each local position where the first base station has the highest communication quality level in the subset of local positions (column 5, lines 40-43; where the present base station holds the highest quality level and is anticipating handover), based on the created quality information (column 5, lines 51-54; where the participating stations are the neighboring stations); and creating the operation data indicating the selected base stations as the other base stations related to the first base station having the highest communication quality level (column 5, lines 50-59; the "rank-ordered based" list holds the information in order in case of handover request); where the "rank-ordered" list based on RSS corresponds to a ordered list that contains a first, second, third, etc. RSS. Moreover,

RSS is a parameter that defines quality of service. Also, it is inherent in the art regarding quality of service to consider the highest quality first and move in a descending order if options are required).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Hogan and Wallstedt method for creating data based on a best quality level with DeSantis's ordered list in order to select the base station with the next best signal strength to preserve a high quality of service, as taught by DeSantis.

3. Claims 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan in view of Wallstedt, further in view of DeSantis, and further in view of Spear (Spear, Stephen L.; US Patent No.: 6,289,220 B1).

Regarding claim 15, Hogan teaches of an operation data creating method for creating operation data in a mobile communication system (column 3, lines 62-65) which includes a plurality of base stations within the service area (column 4, lines 35-40; where networks comprise a plurality of base stations) and a mobile station which makes a wireless communication with the base stations (column 4, lines 59-67), the operation data creating method comprising the steps of creating quality information indicating the communication quality level with respect to each base station at each local position within a cell of the service area (column 4, lines 7-10; where the quality information of each local mobile station is related to the available base stations in the area).

Hogan does not specifically teach of selecting a first base station having a highest communication quality level; selecting base stations having a second highest or

subsequent communication quality level which is lower than the first base station at each local position where the first base station has the highest communication quality level in the subset of local positions, based on the created quality information and creating the operation data indicating the selected base stations as the-other base stations related to the first base station having the highest communication quality level. Hogan further teaches of quality level at each local position in a subset of local positions within each cell of the service area (figure 4 where positions 15, 16 and 18 correspond to a subset of local positions in the system), based on the created quality information, the subset of local positions including a local position of the mobile station (column 4, lines 7-10; where the mobile station positions are considered).

In related art, concerning an adaptive neighbor cell list, Wallstedt teaches of selecting a first base station having highest communication quality level (column 4, lines 43-47 and figure 5, where the least interfered signal corresponds to the highest quality level).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Hogan's data creating method with Wallstedt's selecting a first base station having highest communication quality level for creating data based on a best quality level in order to create a list of highest quality measurements that will improve the likelihood of successful handoffs, as taught by Wallstedt.

Hogan in view of Wallstedt does not specifically teach of selecting base stations having a second highest or subsequent communication quality level which is lower than

a highest communication quality level at each local position where the same base station of interest has the highest communication quality level, based on the created quality information with respect to each base station at each local position; and creating the operation data indicating the selected base stations as the other base stations related to the base station of interest having the highest communication quality level.

In related art concerning assisted handover in a wireless communication system, DeSantis teaches of selecting base stations having a second highest or subsequent communication quality level which is lower than a highest communication quality level at each local position where the same base station of interest has the highest communication quality level (column 5, lines 40-43; where the present base station holds the highest quality level and is anticipating handover), based on the created quality information with respect to each base station at each local position (column 5, lines 51-54; where the participating stations are the neighboring stations); and creating the operation data indicating the selected base stations as the other base stations related to the base station of interest having the highest communication quality level (column 5, lines 50-59; the "rank-ordered based" list holds the information in order in case of handover request); where the "rank-ordered" list based on RSS corresponds to a ordered list that contains a first, second, third, etc. RSS. Moreover, RSS is a parameter that defines quality of service. Also, it is inherent in the art regarding quality of service to consider the highest quality first and move in a descending order if options are required).

It would have been obvious to a one of ordinary skill in the art at the time the

invention was made to combine Hogan and Wallstedt method for creating data based on a best quality level with DeSantis's ordered list in order to select the base station with the next best signal strength to preserve a high quality of service, as taught by DeSantis.

Hogan in view of Wallstedt and further in view of DeSantis does not specifically teach of a computer-readable storage medium which stores a program for causing a computer to carry out a process as described in the present application.

In related art concerning generating neighbor cell lists in a cellular environment having a fist cell and a plurality of neighbor cells, Spear teaches of a computer-readable storage medium which stores a program for causing a computer to carry out a process as the one described in claim 1 (column 4, lines 50-59).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Hogan, Wallstedt and DeSantis method for creating operation data with Spear's computer-readable storage medium in order to maintain records and information relating to the identity of the controllers for neighboring cells and the address information associated with them, as taught by Spear.

Regarding claim 16, Hogan in view of Wallstedt, further in view of DeSantis and in further view of Spear teaches all the limitations of claim 15. Wallstedt further teaches where the quality information creating procedure causes the computer to measure the communication quality level with respect to each base station at each local position within the service area is computed by estimation according to a predetermined

algorithm (column 5, lines 8-13; where the matrix is an algorithm), and the quality information is created based on a computed result (column 5, lines 13-16).

Regarding claim 17, Hogan in view of Wallstedt, further in view of DeSantis and in further view of Spear teaches all the limitations of claim 15. Wallstedt further teaches where where the quality information creating procedure causes the computer to measure the communication quality level with respect to each base station at each local position within the service area is measured (column 5, lines 8-13), and the quality information is created based on a measured result (column 5, lines 13-16).

Regarding claim 18, Hogan in view of Wallstedt, further in DeSantis and in further view of Spear teaches all the limitations of claim 15. Wallstedt further teaches where the related base stations selecting procedure causes the computer to select one of the base stations having the second or subsequent communication quality level is selected if the same base station having the second or subsequent communication quality level at a plurality of local positions, when selecting the base stations having the second or subsequent communication quality level at each local position where the same base station of interest has the highest communication quality level in each list (page 4, paragraphs 0039 and 0040).

Regarding claim 19, Hogan in view of Wallstedt, further in view of DeSantis and in further view of Spear teaches all the limitations of claim 15. Wallstedt also teaches where the related base stations selecting procedure includes a list creating procedure which causes the computer to create a list having the base stations arranged at positions in an order from a highest communication quality level based on the created

quality information, with respect to each local position (column 9, lines 39-44); Wallstedt further teaches of selecting base stations located at a second or subsequent position in each list having the same base station positioned at a first position having the highest order in each list (page 4, paragraph 0039); and creating operation data indicating the selected base stations as the other base stations related to the base station located at the first position having the highest order in each list are created (page 4, paragraph 0040; where when referring to quality, the highest quality is preferred in a service area).

Regarding claim 20, Hogan in view of Wallstedt, further in view of DeSantis and further in view of Spear teaches all the limitations of claim 19. DeSantis also teaches, where: the related base station selecting procedure causes the computer to successively select the base stations from the positions having the higher order in each list, when selecting the base stations located at the second or subsequent position in each list having the same base station positioned at the first position having the highest order in each list (column 5, lines 51-59; where neighboring cell positions are selected according to quality in a descending order), and the operation data indicating the selected base stations as the other base stations related to the base station at the first position having the highest order in each list, in a state where the selected base stations are arranged in the selected order, are created (column 5, lines 51-59; where the "rank-ordered" list based on RSS corresponds to a ordered list that contains a first, second, third, etc. RSS. Moreover, RSS is a parameter that defines quality. Also, it is inherent in the art regarding quality to consider the highest quality first and move in a descending order if options are required).

Regarding claim 21, Hogan in view of Wallstedt, further in view of DeSantis and further in view of Spear teaches all the limitations of claim 20. In addition, DeSantis teaches, where: the related base station selecting procedure includes a score information generating procedure which causes the computer to generate score information corresponding to a number of the same base station located at the same position in each list, when successively selecting the base stations located at the second or subsequent positions in each list having the same base station located at the first position having the highest order in each list, from the base stations located at positions having the higher order in each list (column 5, lines 51-59), and Wallstedt teaches where the operation data created indicate the selected base stations as the other base stations related to the base station at the first position having the highest order in each list, in a state where the score information is made to correspond to the same base station located at the same position in each list, are created (column 5, lines 51-59.Where it is inherent in the art regarding quality to consider the highest quality first and move in a descending order if options are required).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Angelica Perez whose telephone number is 571-272-7885. The examiner can normally be reached on 7:00 a.m. - 3:30 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either the PAIR or Public PAIR. Status information for unpublished applications is available through the Private PAIR only. For more information about the pair system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.

Angelica Perez
(Examiner)

Art Unit 2684

June 10, 2005

EDAN ORGAD
PATENT EXAMINER/TELECOMM.
6/6/05